

**A MICRO-IMPLANTABLE APPARATUS AND METHOD FOR THE STABILITY
ASSESSMENT OF A TWO-STAGE DENTAL IMPLANT**

ABSTRACT

A micro-implantable apparatus and method for the stability assessment
5 of a two-stage dental implant during Osseo integration processes, whose
detection device is based on a transmission of a pulse wave signal from an
upper opening of an implant and a subsequent analysis of the reflection
waves that measure the changes in mechanical interlock between the bone
and the implant resulted from the wound healing processes happened at the
10 gap between bone-implant interface. The incorporation of RF coils in the
detection device provides a mean to transmit and to receive the detection
waves, which makes it possible for such a device to be operated in a wireless
setting. This device also includes an energy storage, which serve as a
15 temporary power supply unit to effectively eliminate the need for signal wires
and power cores, which in turn further increases the applicability and safety of
such a device as a passive, implant able apparatus.